

J. COOK.
Screw-Taps.

No. 153,316.

Patented July 21, 1874.

Fig. 1.

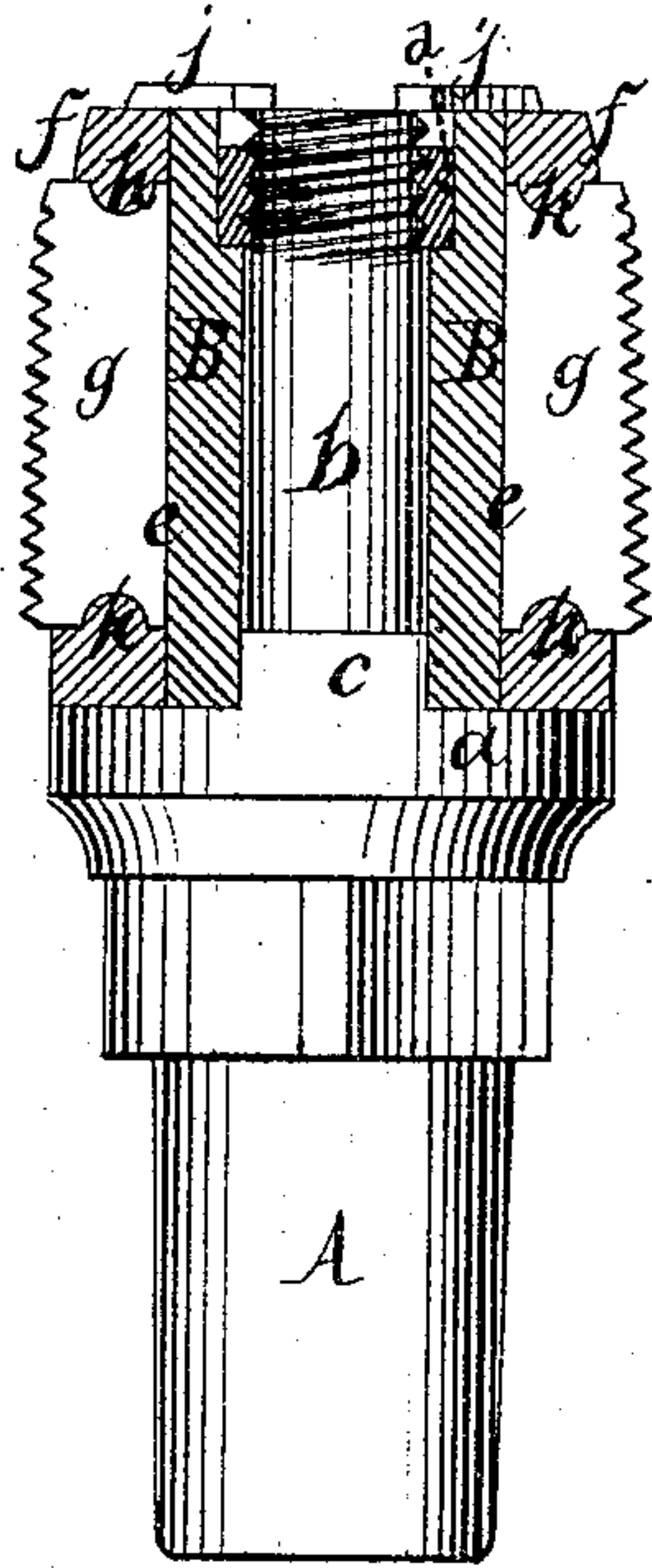


Fig. 2.

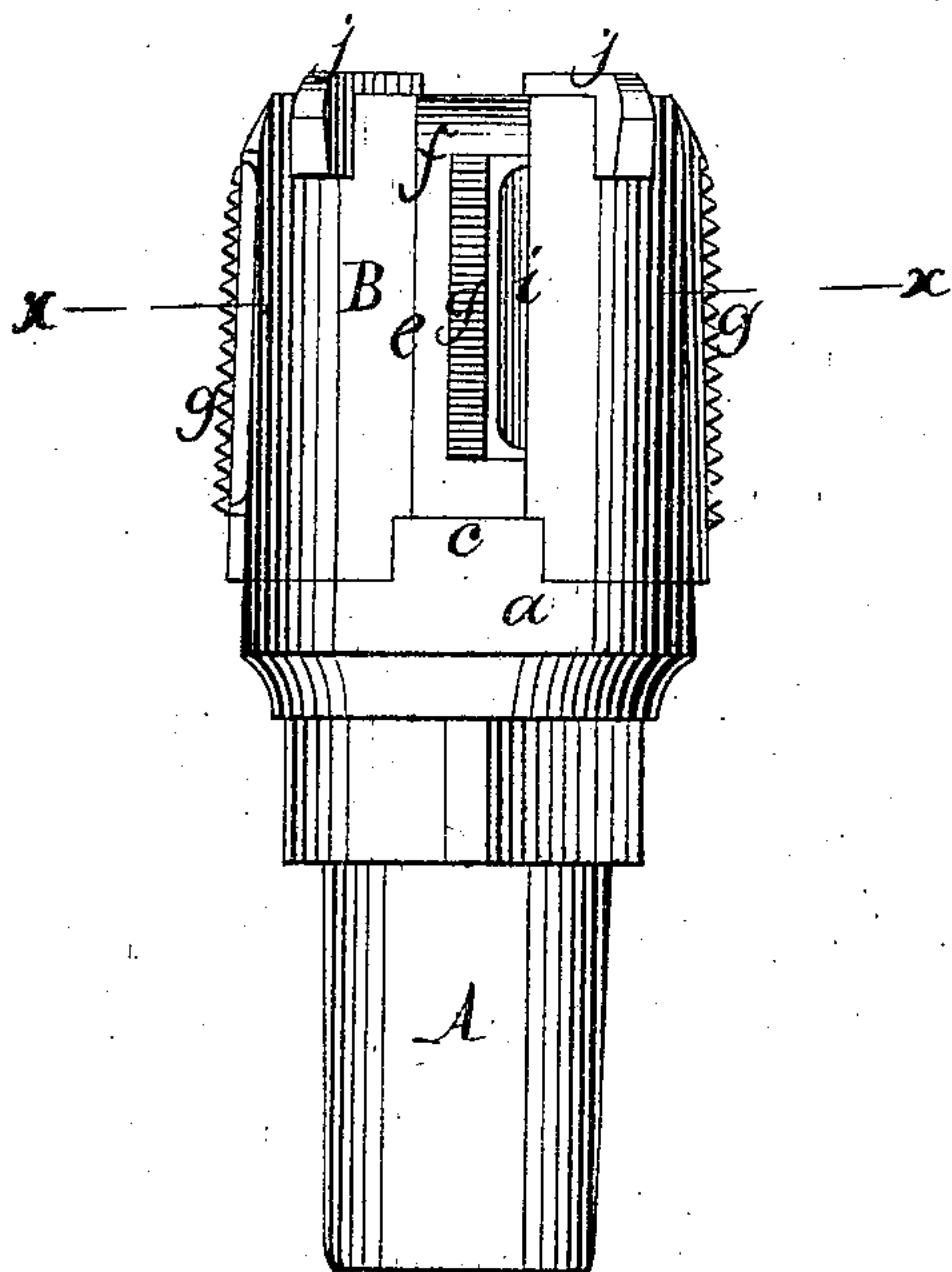


Fig. 3.

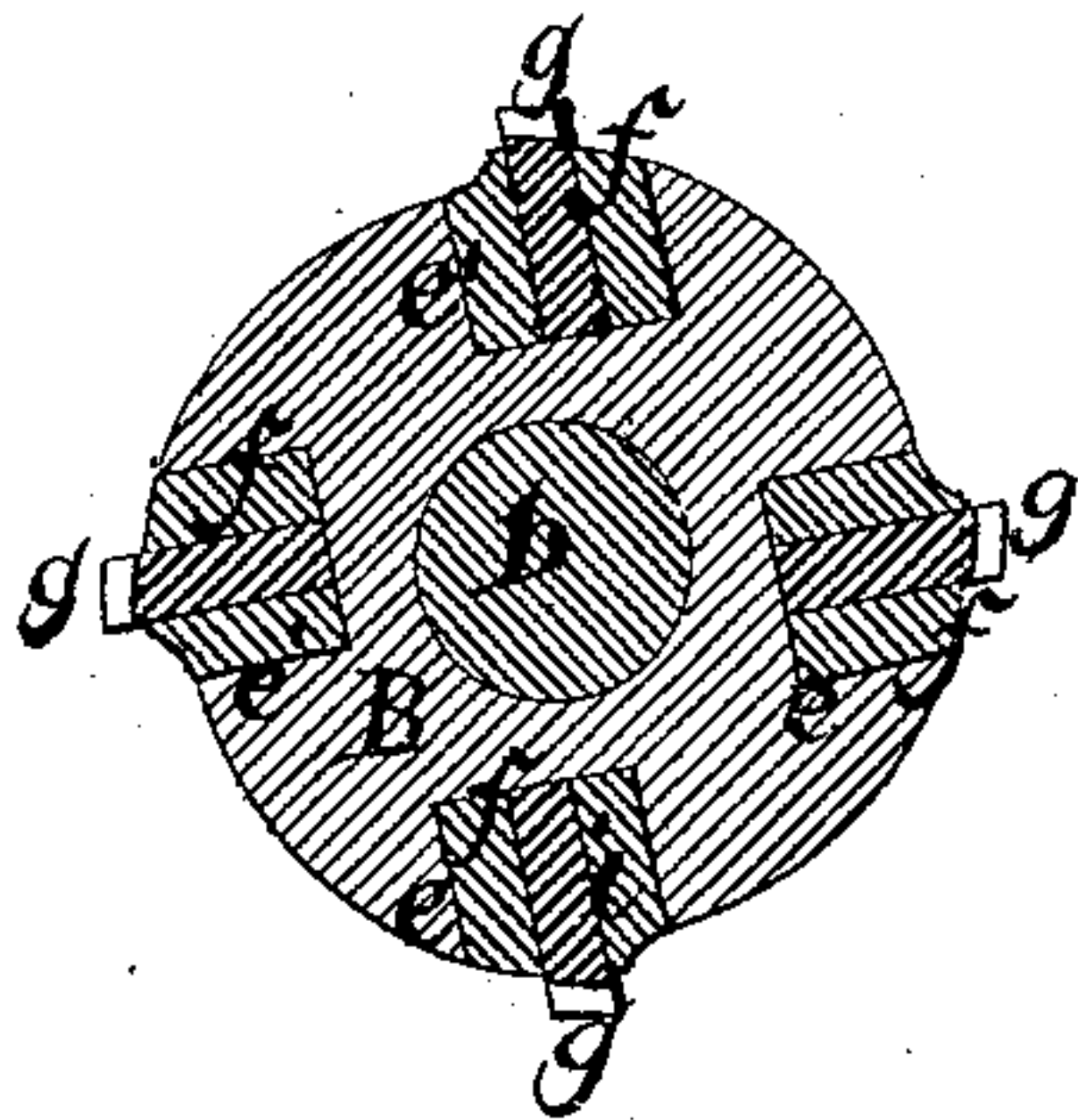
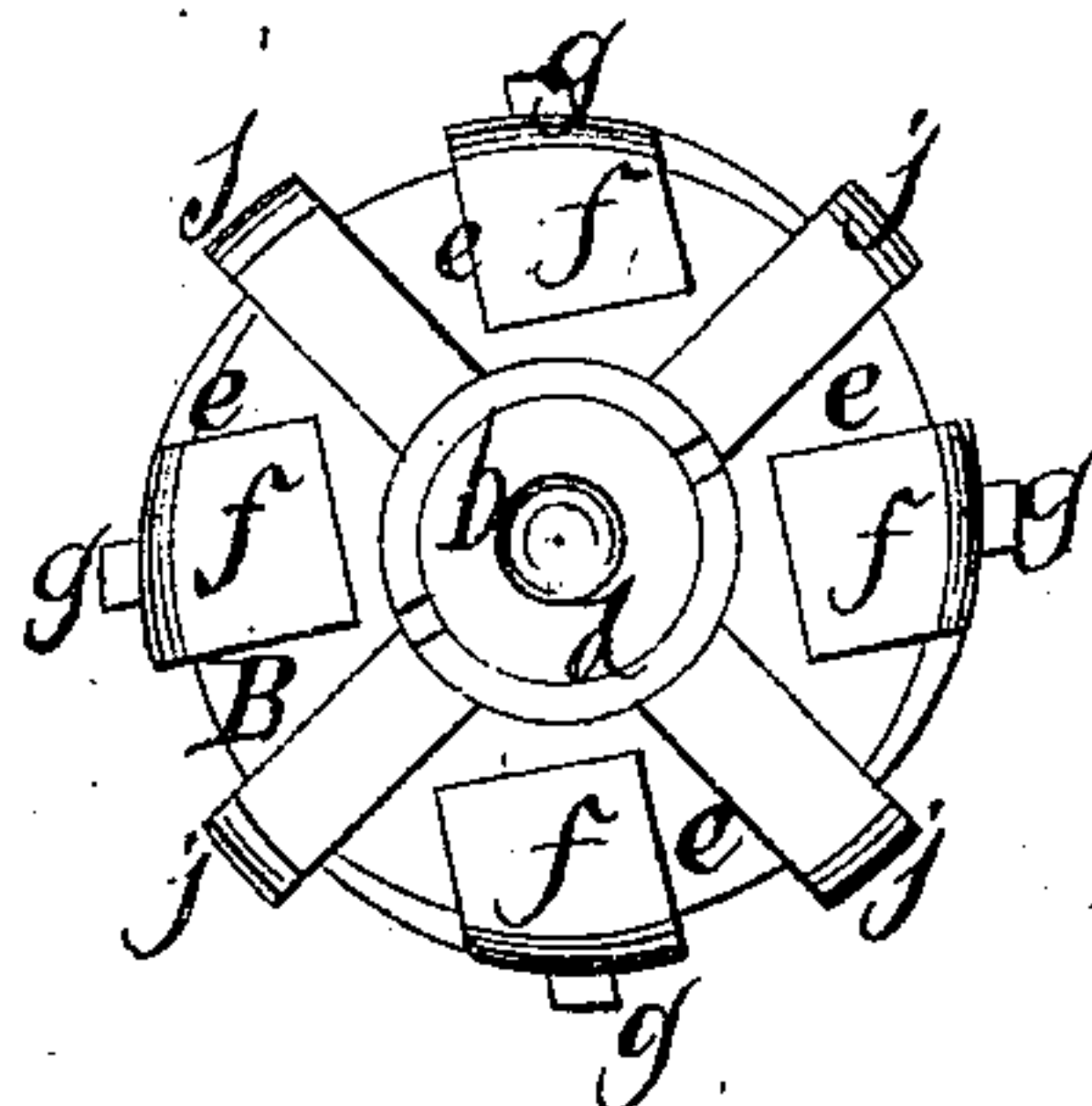


Fig. 4.



Witnesses.

Henry Gontner
Chas. Wahlers

Inventor.

James Cook
per
Van Santwoord & Hauff
attn

UNITED STATES PATENT OFFICE.

JAMES COOK, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SCREW-TAPS.

Specification forming part of Letters Patent No. **153,316**, dated July 21, 1874; application filed July 3, 1874.

To all whom it may concern:

Be it known that I, JAMES COOK, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Screw-Taps, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a longitudinal section. Fig. 2 is a side view. Fig. 3 is a transverse section in the plane $x x$, Fig. 2. Fig. 4 is an end view.

Similar letters indicate corresponding parts.

This invention consists in the combination of detachable cutters with blocks, which are set in cavities in a barrel that fits the stock of the tap, and is retained thereon by a nut in such a manner that the cutters can be readily taken out, replaced, or changed for others, and also adjusted when worn, and that said cutter can be made from small pieces of steel at a trifling expense. With the cutters, and the barrel that carries the cutters, are combined radiating guides, which assist in starting the tap in the hole of a nut. The blocks which carry the cutters also contain clearers to throw off the chips.

In the drawing, the letter A designates the stock of my tap, which is provided with a shoulder, and a cylindrical pin, b , to receive a barrel, B. This barrel is provided at its inner edge with recesses to fit lugs c projecting from the shoulder a , and it is forced down upon said shoulder by a nut, d , that screws on the end of the pin b . When the nut is tightened the lugs c effectually prevent the barrel from turning. In said barrel are made four (more or less) cavities, e , for the reception of blocks f , which are provided with recesses to receive the cutters g . These cutters are made of plain flat pieces of steel, which can be easily prepared, and provided with the required screw-threads, as shown in the drawing, and they are furnished at their ends with notches to catch over lugs h , Fig. 1, which project from the ends of the recesses in the blocks, and prevent the cutters from rising. The cavities e are slightly dovetailed to receive the blocks f , which are made to correspond, so that they cannot rise in their cavities, and these cavities do not extend clear through the barrel, the blocks f and the cutters g being made to rest against the bottoms of the cavities, as

shown in Fig. 3. With the cutters g are combined clearers i , which consist of flat plates somewhat narrower than the cutters, but of equal width with the same. The outer edges of said clearers are chamfered off, as shown in Figs. 2 and 3, and a portion of the surface of the barrel between each pair of the cutters is taken off toward the lowest edges of the clearers, so that the chips can pass out freely. In the outer edge of the barrel B are radial slots for the reception of guide-plates j , which serve to keep the tool straight at the beginning of the operation of cutting a thread in a nut. The inner ends of said guide-plates bear upon the circumference of the nut d , and they can be adjusted by placing strips of sheet metal or paper beneath them. Said guide-plates also act as cutters to size the holes in the nuts. In finishing the cutters I place two blanks in each block, and after having cut the threads on said blanks I remove one from each block and put one of the clearers in the place, and by these means I obtain duplicate cutters by one operation. When one of the cutters is worn out it can be raised in its block by easing the recesses fitting the lugs h and placing a strip of paper or sheet metal under the bottom edge of the cutter.

By this arrangement a screw-tap is obtained in which the cutters can be readily changed or replaced by new ones, and since the cutters are made of plain small pieces of steel, the expense of renewing the same is trifling. My tap can be kept in proper working order with little trouble.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of cutters g with blocks f , barrel B, and stock A, substantially as shown and described.
2. The combination of radiating guide-plates j with the barrel B, blocks f , and cutters g , substantially as set forth.
3. The combination of clearers i with cutters g , blocks f , barrel B, and stock A, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

JAMES COOK. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.